

Work Order ID 123518

Thursday, August 07, 2014 11:17:41 AM

647.3913

123518

Page 1

Item ID: 647.3913

Revision ID:

Item Name: Breakaway Tip Medium

Start Date: 8/07/14 Start Qty: 6.00

Required Date: 8/07/14 Req'd Qty: 6.00

Reference:

3123518

REV-C

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

6

6

Approvals:

Process Plan: MLD

Date: 1408-11

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
647.3900	C

100

0.00

100

Bandsaw

Jeaspa Bandsaw

BAND SAW

Memo

Cut Blank at 8.625"

0.00

OK 14/08/18

6 6

110

0.00

110

HAAS 1

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

1-Machine per folio FB315

DWG REV: 0

FOLIO REV: AA

0.00

2- deburr and break all sharp edges

OK 14/08/21

6 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

☐ Work Order update only

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

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Material									
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		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Work Order ID 123518

123518

Page 3

Thursday, August 07, 2014 11:17:41 AM

Item ID: 647.3913 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Breakaway Tip Medium
 Start Date: 8/07/14 Start Qty: 6.00 *6* Cust Item ID:
 Required Date: 8/07/14 Req'd Qty: 6.00 *6* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	Receive & Inspect for Damage & Mat'l Certs	0.00							
150									
Packaging	Memo	0.00							
Packaging									
155	QC5- Inspect part completeness to step on W/O	0.00							
155									
QC	Memo	0.00							
Quality Control									
180	Identify as per dwg & Stock Location	0.00							
180									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV***								

9/4/12 (6)
 6
 DAS 38 9-89 14-9-2
 6x 14-9-2 38 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
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Doc/Data									
Equip/Tooling									
Handling/Pre									
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Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

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Work Order ID 123518***123518***

Page 4

Thursday, August 07, 2014 11:17:41 AM

Item ID: 647.3913

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Breakaway Tip Medium

Start Date: 8/07/14 Start Qty: 6.00

6

Cust Item ID:

Required Date: 8/07/14 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

MLJ 14-09-03
MLJ 14-09-03

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Picklist Print

Page 1

Thursday, August 07, 2014 11:17:41 AM

Work Order ID: 123518

123518

Parent Item: 647.3913

647 3913

Parent Item Name: Breakaway Tip Medium

Start Date: 8/07/14

Required Date: 8/07/14

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV. A NEW ISSUE JFS 14/06/16 VERIFIED BY: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M7075T6B2.000X00.75 0		Purchased	No			100	f	9.7080	0.719	5			

M7075T6B2 000X00 750

7075-T6 BAR 2.000' X 0.750"

Location

Loc Qty

Loc Code

MAT049

9.708

123555

0.666

M127736

9.042

4.5 *only 14/08/18*

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>
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Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

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DART AEROSPACE LTD	Work Order: 123518
Description: DEFLECTORS	Part Number: 647.3915
Inspection Dwg: 647.3900 Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.180 X 45.0°	± .005 X ± 1/2°	.180 X 45°	—		Vern	HL-06
0.4167	± .005	.418	—		"	
4.483	± .005	4.485	—		"	
.480	± .005	.479	—		"	
.560	± .005	.558	—		"	
.362	± .002	.364	—		"	
.506	± .005	.508	—		"	
.910	± .005	.910	—		"	
R.0625	± .005	R.0625	—		R-b	
.337	± .005	.337	—		Vern	HL-06
1.196	± .005	1.197	—		"	
3.691e	± .005	3.697	—		"	
Ø.194	± .005	Ø.193	—		"	
Ø.189	± .005	Ø.189	—		"	
31.4°	± 1/2°	31.4°	—		C-Aquare	
41.9°	± 1/2°	41.9°	—		"	

Measured by: <i>[Signature]</i>	Audited by: <i>[Signature]</i>	DAS 08 9-89	Preliminary Approval:
Date: 14/08/21	Date: 14/08/23		Date:

Rev	Date	Change	Revised by	Approved
E	10.04.14	Added preliminary approval	KJ	

[Signature] 10.04.15

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04556

SHEET 1 OF 1

DWG NO. 647,3900

REV: C

PREPARED BY D. MEJIA

DATE: 06/10/2014

EFFECT ON DWG.
☐ INC. ☒ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY: ENGR *[Signature]*

MFG *[Signature]*

QC *[Signature]*

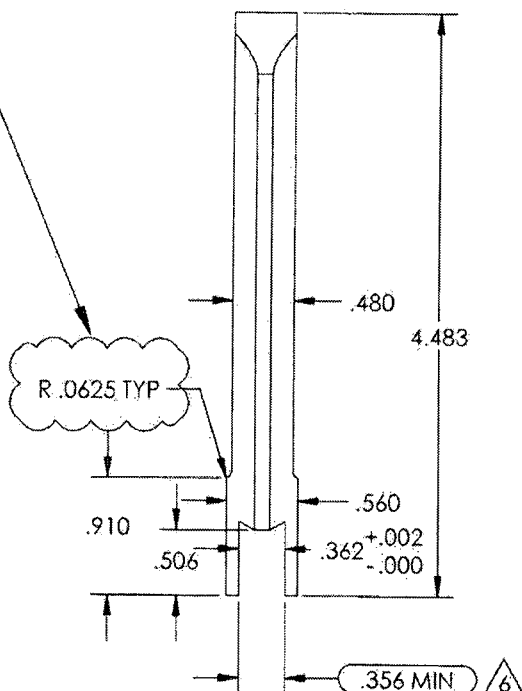
EFF. NEXT ORDER

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

REASON: DIMENSION CHANGE

ECR: D-14-04

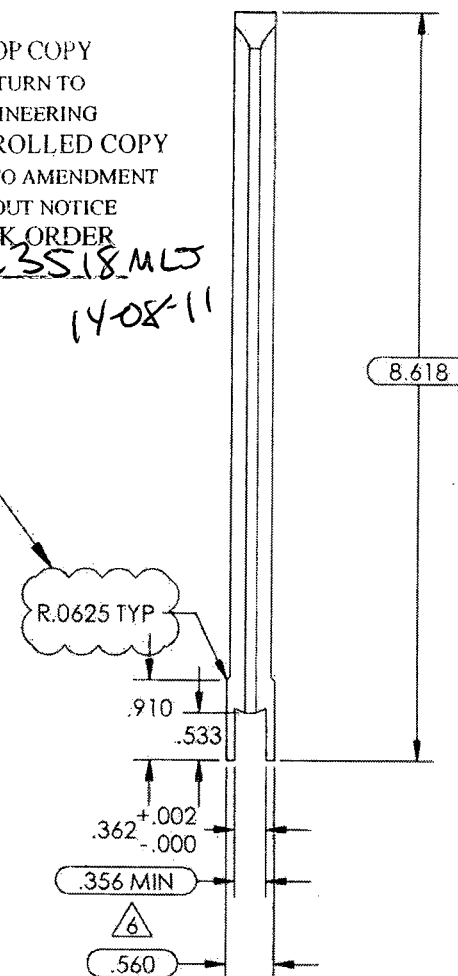
IS



SHEET 5, ZONE C6 IS:

IS

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 123518 MLJ
140811



SHEET 6, ZONE C6 IS:

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO

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NOTES:

1. MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.

2. FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK.

3. DEBURR AND BREAK ALL SHARP EDGES.

4. IDENTIFY IAW MPP-120.

5. APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.

6. MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.

7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES.

8. FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.

9. FINISH: PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N; 1-2 MIL MAX.

REVISIONS		
REV.	DESCRIPTION	DATE
1	LAST PROTOTYPE RELEASE, PRT	N/C
2	INITIAL RELEASE	09/10/09
3	INCORPORATED ECN 0330P & 0335P	07/24/12
4	INCORPORATED ECN 0405P	08/02/13
5	INCORPORATED ECN 0405P, 0405S & 0413P	11/08/13

UNINCORPORATED ECN(s)

04556

6			12	601.3072	RIVET	CS3713-6-9	
2			11	647.3917	DOUBLER		
1			10	647.3916	DEFLECTOR, UPPER HALF	△	△
1			9	647.3915	DEFLECTOR, LOWER HALF	△	△
	1		8	647.3914	BREAKAWAY TIP LONG	△	△△
		1	7	647.3913	BREAKAWAY TIP MEDIUM	△	△△
	1	1	6	647.3912	LOWER DEFLECTOR	△	△△
			5	647.3911	212 UPPER DEFLECTOR	△	△△
			4	647.3910	412 UPPER DEFLECTOR	△	△△
A/R	A/R	A/R	3	601.2045	RTV, LOCITE 598		△
	3	2	2	601.3074	RIVET	MS20470AD 6-12	
			1		DELETED		
X				647.3903	DEFLECTOR ASSY		△
	X			647.3902	LOWER DEFLECTOR ASSY		
		X		647.3901	HIGH LOWER DEFLECTOR ASSY		
.3903	.3902	.3901	FIND #	PART #	DESCRIPTION	MATL	SPEC
PARTS LIST							
QTY	ORIGINAL DATE						
NEXT ASSY (S)	09-10-09						
647.3800	DRAWN BY: D. BARBER						
	DRAWING APPROVAL						
	P. BRAYO						
	DATE: 08-10-09						
	UNLESS OTHERWISE SPECIFIED						
	DIMENSIONS ARE IN INCHES						
	TOLERANCES ARE						
	3 PLACE DECIMALS ±.01						
	ANGLES ±.5°						
APICAL INDUSTRIES						REV. C	
2608 TEMPLE HEIGHTS DR.						8. 07M26	
OCEANSIDE, CA. 92056-3512 (760)724-5300						SCALE: NONE	
DEFLECTORS						SHEET 1 OF 12	
						647.3900	

647.3901

647.3902

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.125 X 45.0° TYP

SECTION B-B

Ø.177 THRU 3PL

.266 X 17.9°

.045

.603

R.915

4.220±.002
DETAIL A

.923

2.110±.002

R.279

R3.406

15.896

15.304

15.046

B

B

6.446

Ø.189

40.2°

.312

0

18.502

18.127

35.8°

10.702

8.599

6.253

1.700

.777

DETAIL C

.700

.340^{+0.000}
-.002

.346 MAX

.035 X 45.0° TYP

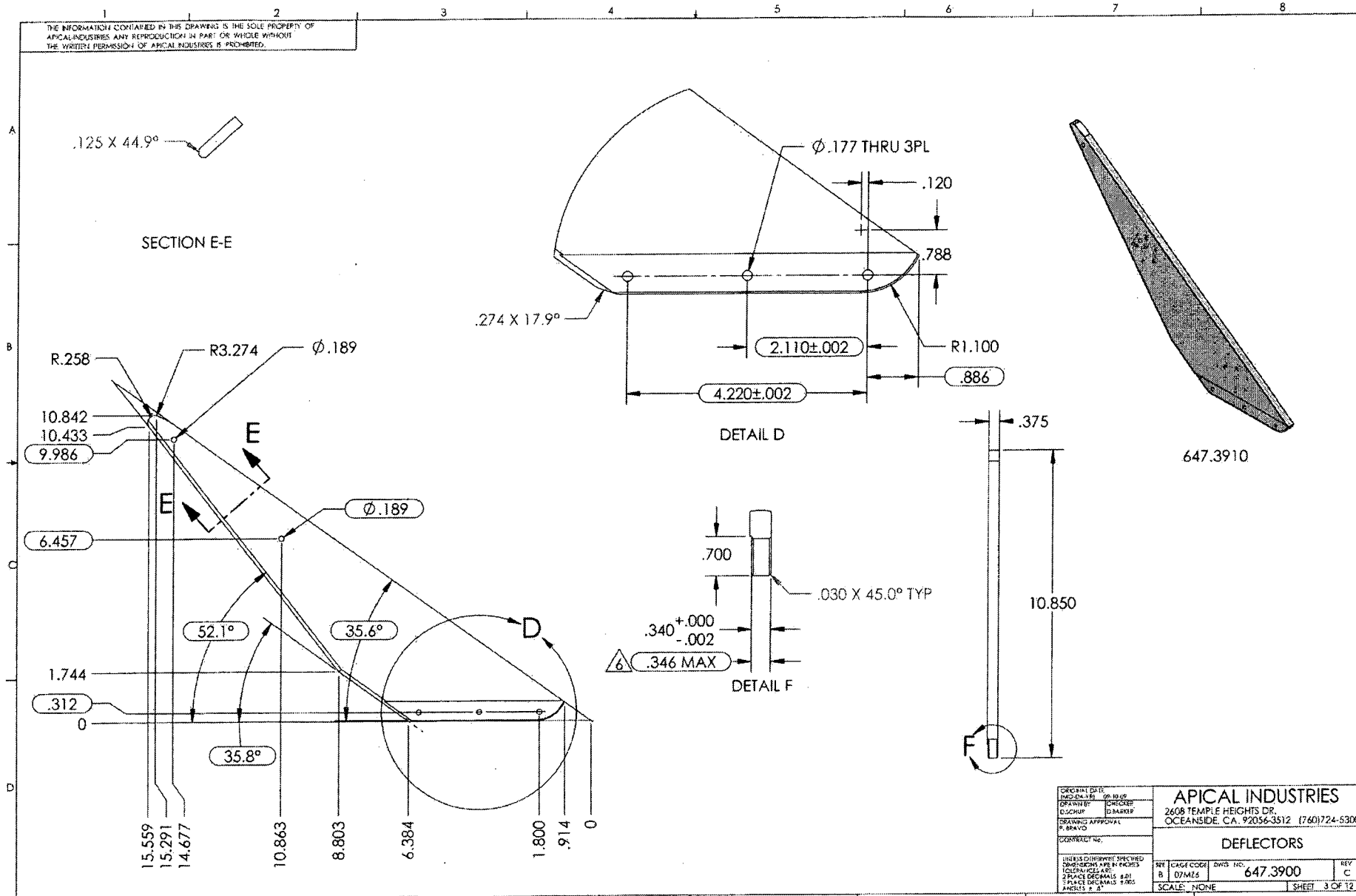
.375

15.896

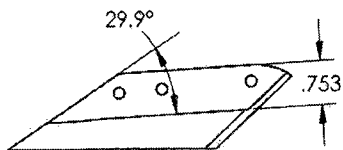
647.3911

ORIGINAL DATE 09-10-09		APICAL INDUSTRIES	
DRAWN BY J. SCHUB		2608 TEMPLE HEIGHTS DR.	
CHECKED BY J. SCHUB		OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL		DEFLECTORS	
CONTRACT NO.		647.3900	
UNLESS OTHERWISE SPECIFIED		SCALE NONE	SHEET 2 OF 12
DIMENSIONS ARE IN INCHES			
TOLERANCES ARE:			
1 PLACE DECIMALS ±.01			
2 PLACE DECIMALS ±.005			
ANGLES ±.5°			

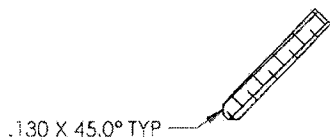
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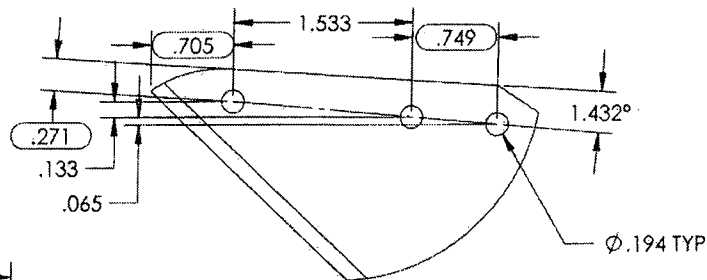
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



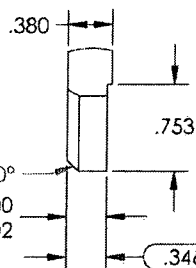
SECTION L-L



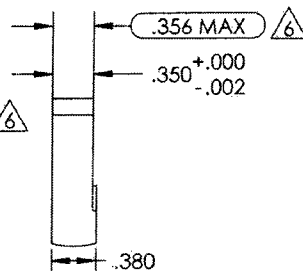
SECTION M-M



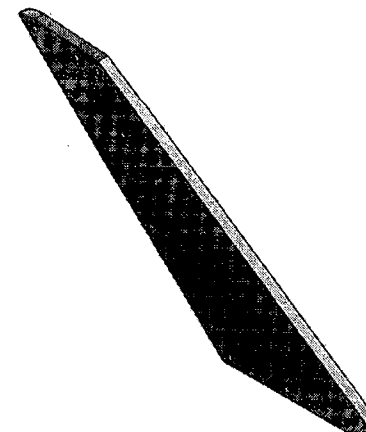
DETAIL H



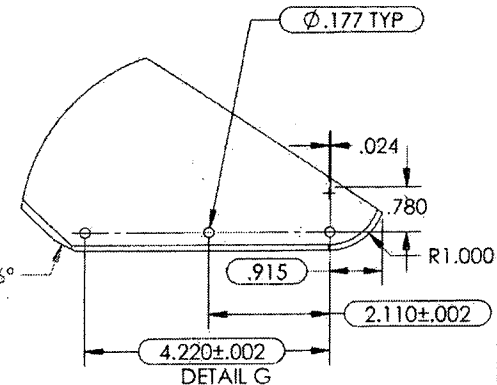
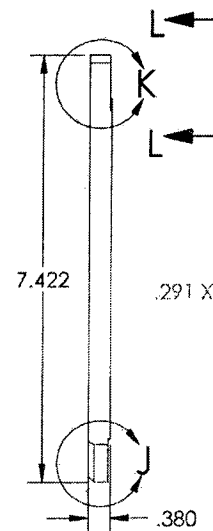
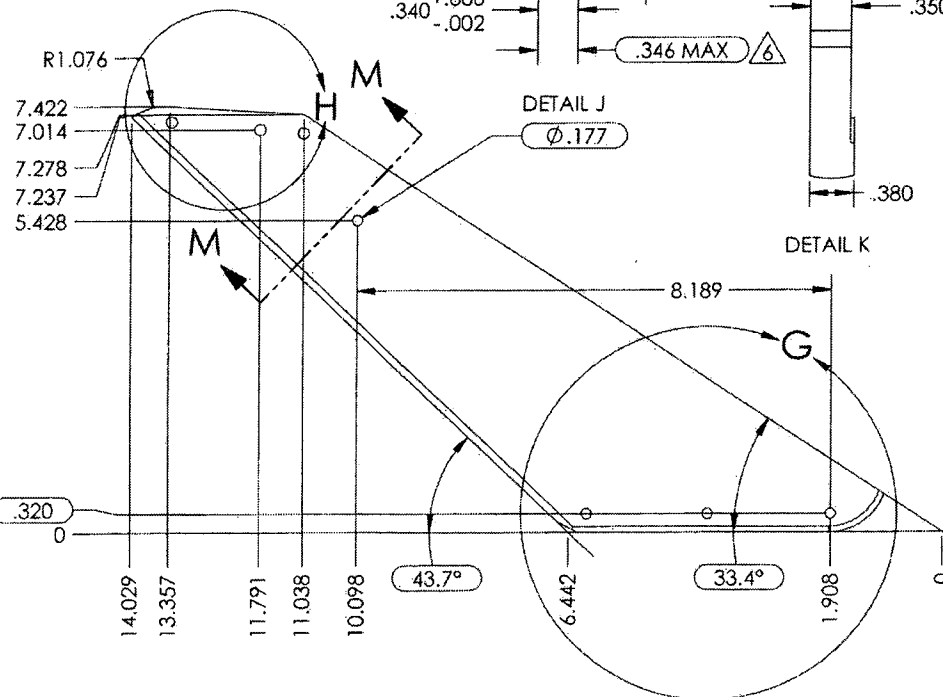
DETAIL J



DETAIL K



647.3912



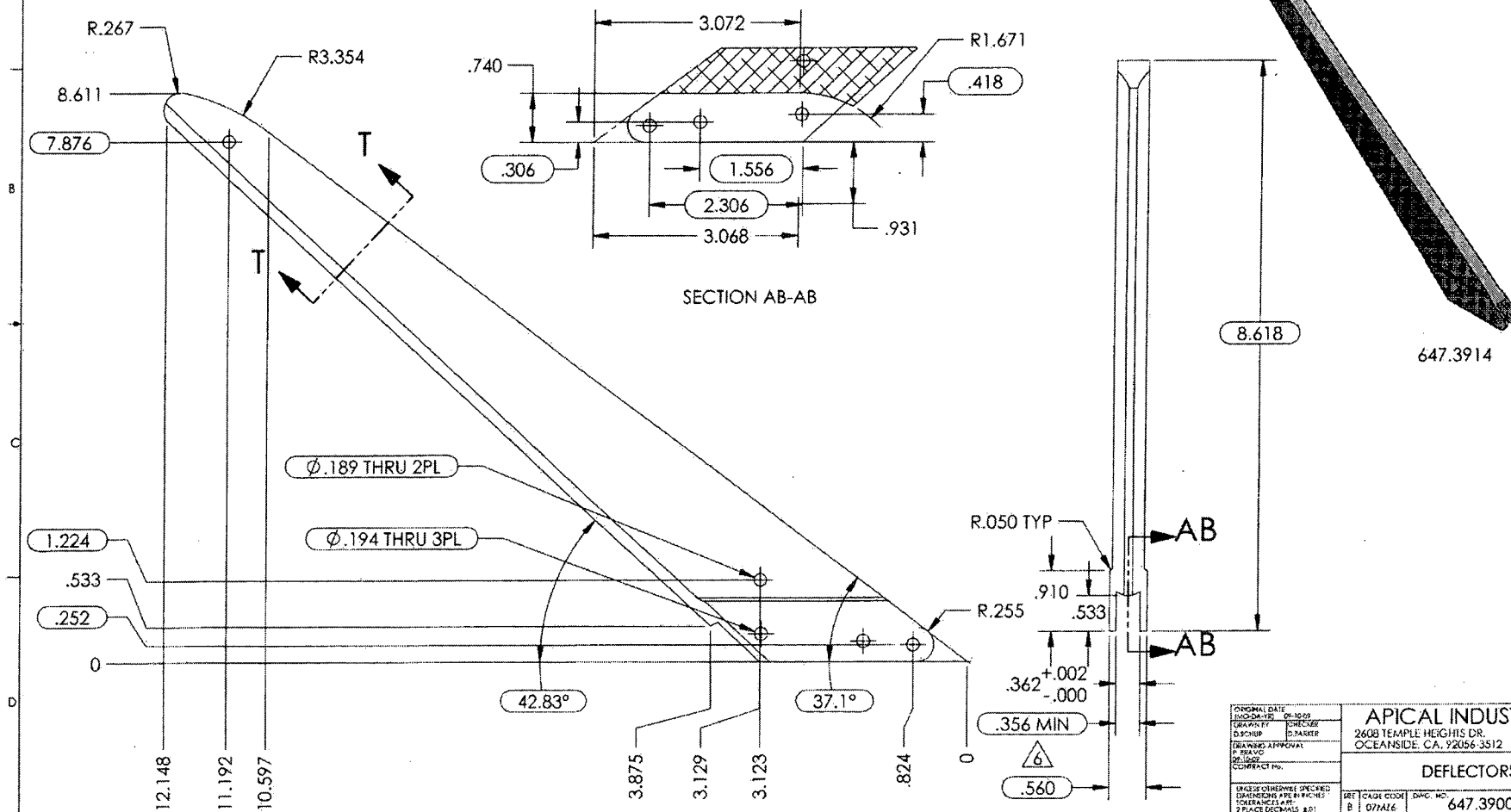
ORIGINAL DATE		APICAL INDUSTRIES	
DESIGNED BY		2408 TEMPLE HEIGHTS DR.	
DRAWN BY		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY		DEFLECTORS	
DATE		647.3900	
UNLESS OTHERWISE SPECIFIED		SCALE NONE	
DIMENSIONS ARE IN INCHES		SHEET 4 OF 12	
TOLERANCES ARE:			
FRACTIONS ±.005			
DECIMALS ±.003			
ANGLES ±.2°			

SRE B	CAGE CODE 07M26	DWG. NO. 647.3900	REV. C
SCALE NONE		SHEET 5 OF 12	

.175 X 45.0° TYP



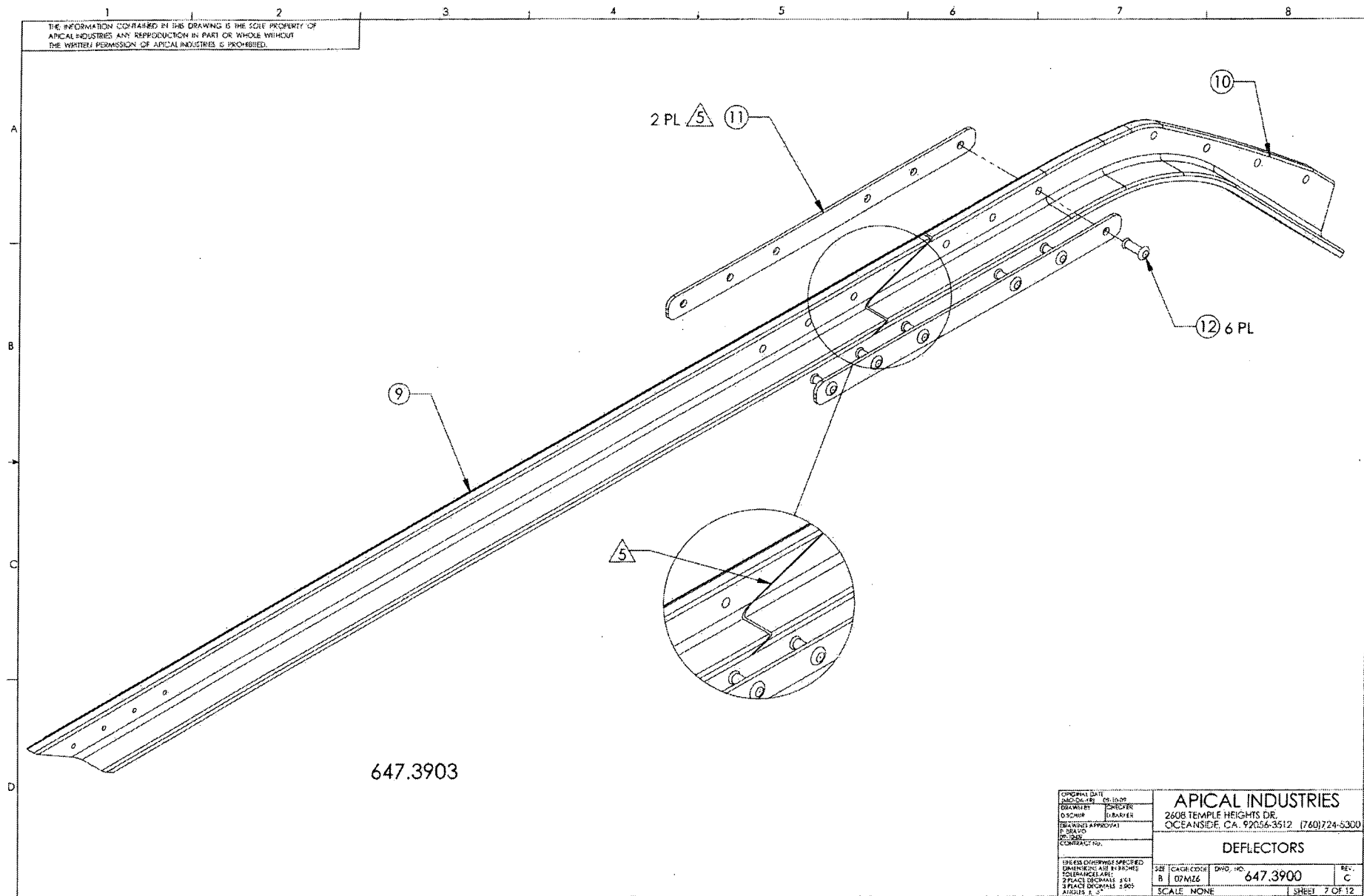
SECTION T-T



647.3914

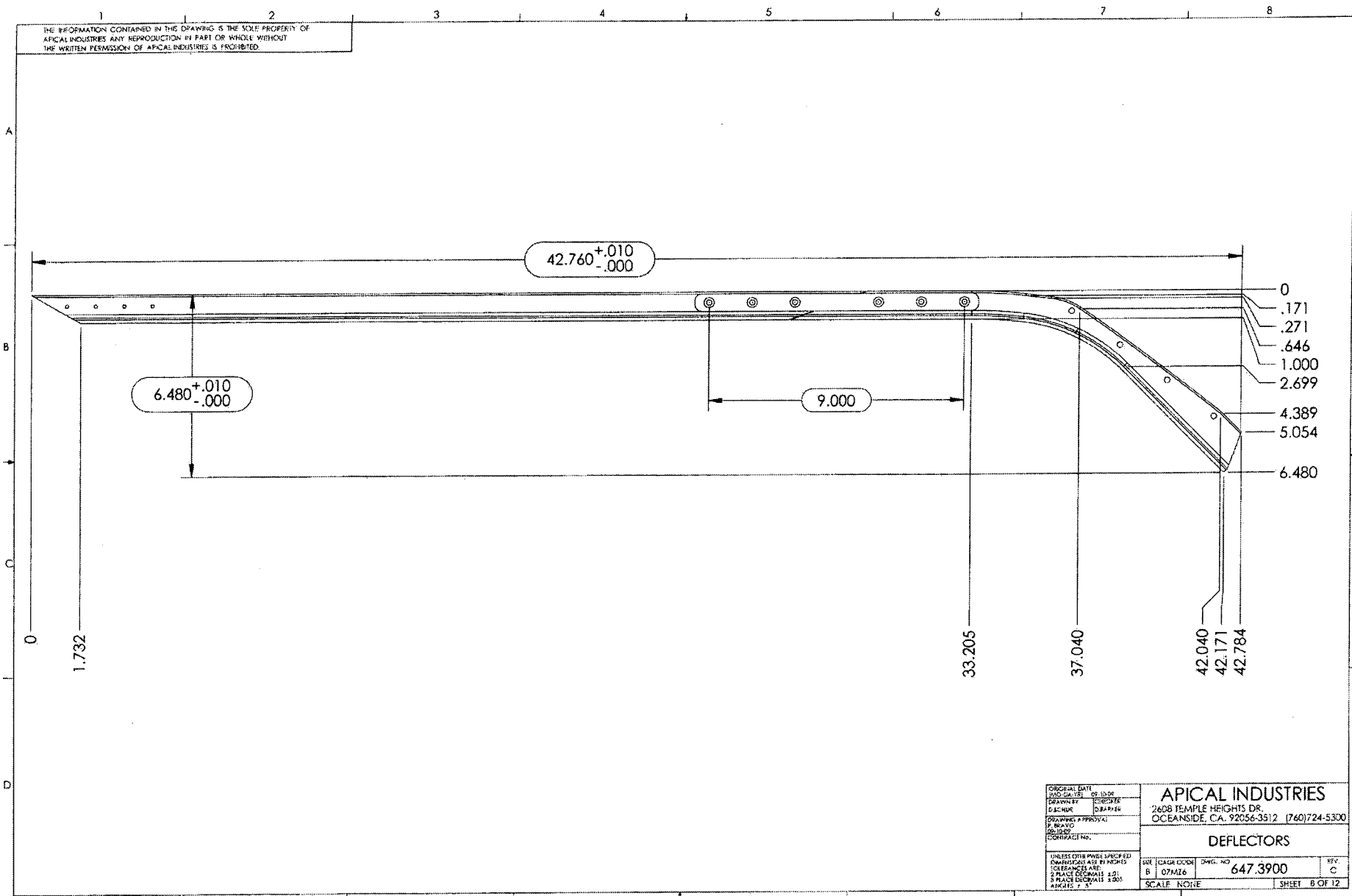
ORIGINAL DATE (MONTH-DAY-YR)	ON 10-09	APICAL INDUSTRIES	
COMPANY	THORCO	2608 TEMPLE HEIGHTS DR.	
D'SIGN	D-BARRIER	OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL	P. FRAYO		
BY	DR. LOU		
CHECKED BY	NO.		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1) PLACE DIMENSIONS ±.001 2) PLACE DIMENSIONS ±.005		DEFLECTORS	
REV.	SCALE	NO.	REV.
0	1/4"=1'-0"	647.3900	C
SCALE NAME		SHEET 6 OF 12	

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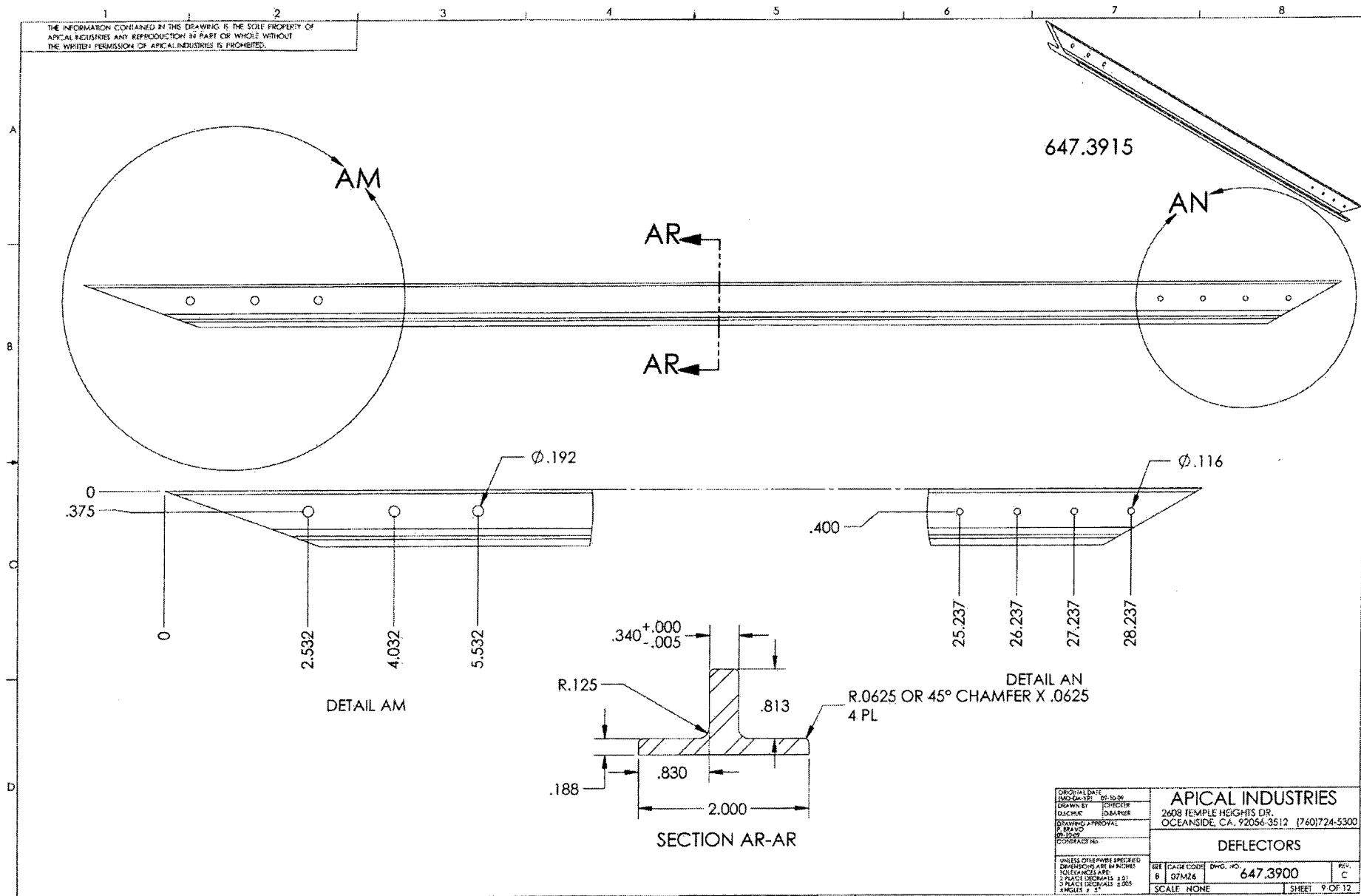
647.3903

<small> ORIGINAL DATE (M/D/YR) 09-10-09 DRAWN BY J. SCHMIDT CHECKED BY J. SCHMIDT (DRAWING APPROVAL) P. TRAVIS P. TRAVIS CONTRACT NO. </small>		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
<small> UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5° </small>		SHEET B	DWD. NO. 07MZ6
		647.3900	REV. C
		SCALE NONE	SHEET 7 OF 12



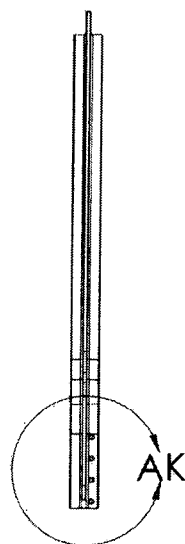
ORIGINAL DATE 2/20/06	09-10-06	APICAL INDUSTRIES	
DRAWN BY C. HENNER	C. HENNER	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED D. HENNER	D. HENNER	DEFLECTORS	
DESIGNER'S APPROVAL P. BRAVO		647.3900	
QUANTITY 100.000		DATE B 07/21/06	REV. C
CONTRACT NO.		SCALE NONE	SHEET B OF 12
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.1°			

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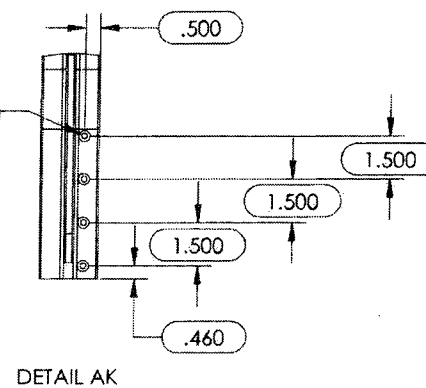


ORIGINAL DATE AND DWT: 05-10-06		APICAL INDUSTRIES	
DRAWN BY DSCM	CHECKED DSCM	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL BY: [Signature]		DEFLECTORS	
CONTRACT NO.		SEE CASE CODE 8 07M26	DWG. NO. 647.3900
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS .005 ANGLES ± 1°		SCALE: NONE	REV. C
		SHEET 9 OF 12	

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THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



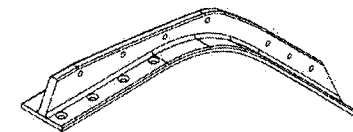
4X $\phi .196 \pm .010$ THRU ALL
 $\checkmark \phi .385 \pm .020 \times 100^\circ \pm 1.000^\circ$



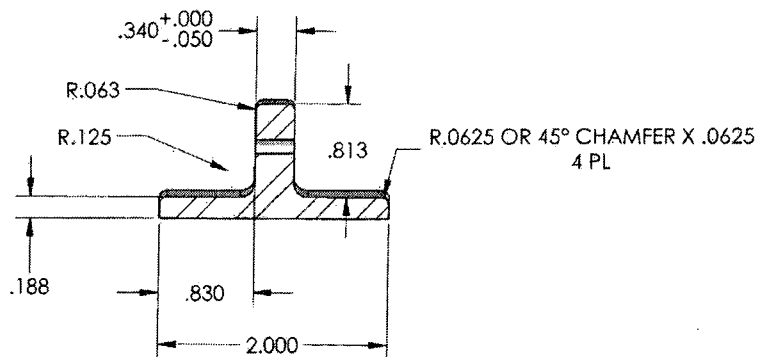
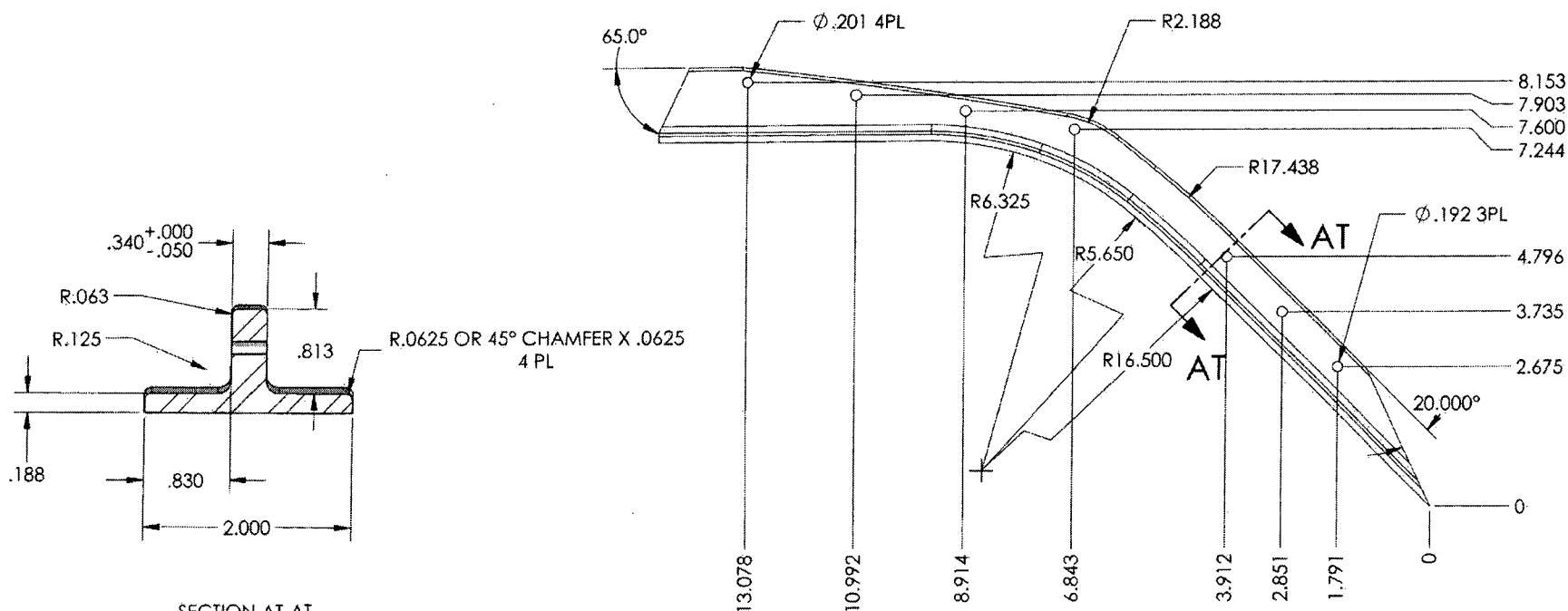
647.3915

ORIGINAL DATE		APICAL INDUSTRIES	
DRAWN BY: D. J. DODD		2408 TEMPLE HEIGHTS DR.	
CHECKED BY: D. J. DODD		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL		DEFLECTORS	
BY: [Signature]		SCALE: NONE	
DATE: 07/26/86		DWG. NO.: 647.3900	REV. C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES 1/16 1/32 1/64 .001 .002 .005 .010 .015 .020 .030 .040 .050 .060 .070 .080 .090 .100 .125 .150 .175 .200 .250 .300 .350 .400 .450 .500 .600 .700 .800 .900 1.000 1.250 1.500 1.750 2.000 2.500 3.000 3.500 4.000 4.500 5.000 5.500 6.000 6.500 7.000 7.500 8.000 8.500 9.000 9.500 10.000		SHEET 10 OF 12	

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647.3916



SECTION AT-AT

ORIGINAL DATE: 05-10-00
 DESIGNED BY: J. B. BROWN
 CHECKED BY: J. B. BROWN
 DRAWING APPROVAL: J. B. BROWN
 P. BRAND
 REVISION
 CONTRACT 140

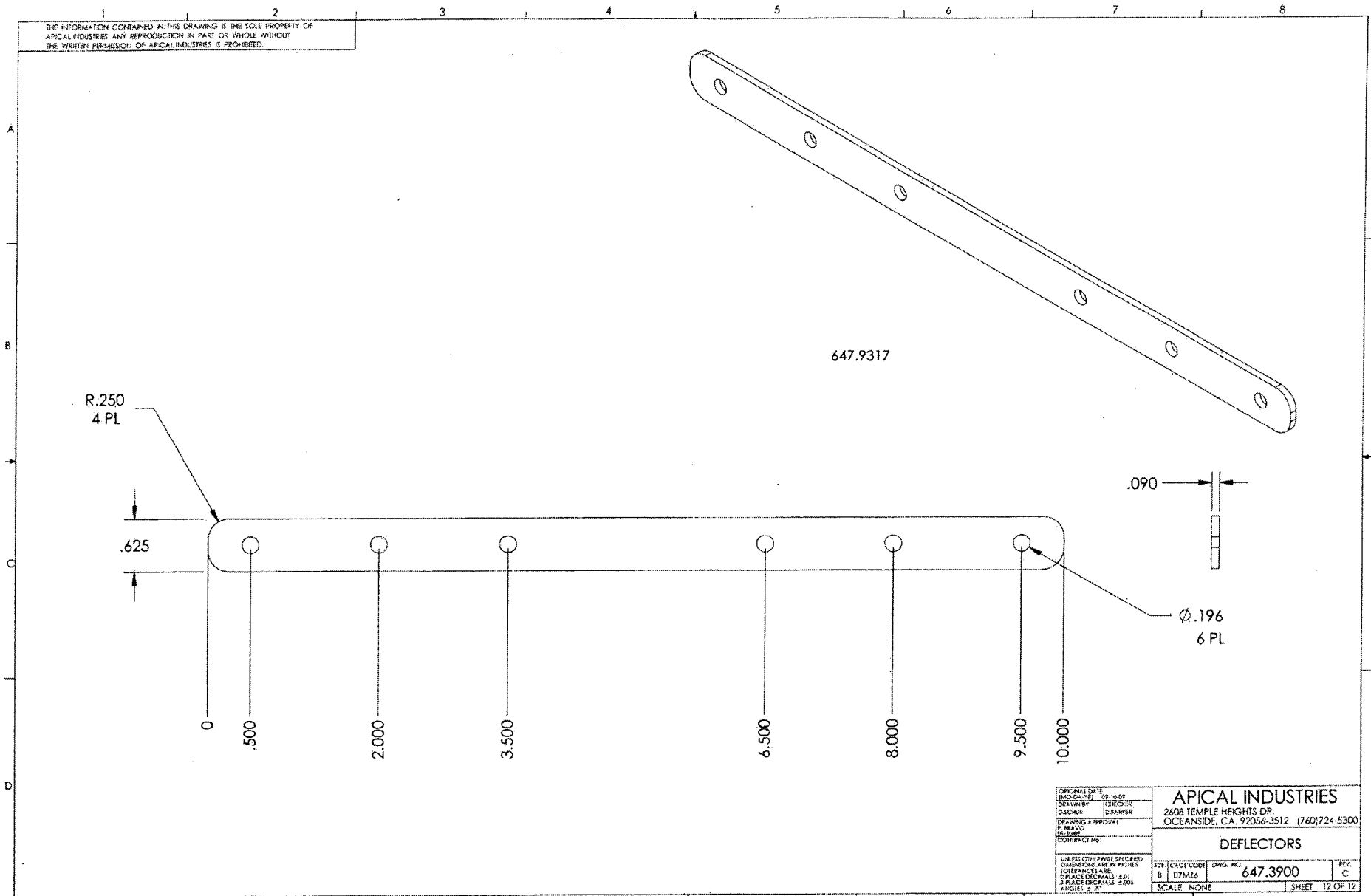
APICAL INDUSTRIES
 2608 TEMPLE HEIGHTS DR.
 OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

UNLESS OTHERWISE SPECIFIED
 DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 2 PLACES DECIMALS ± .01
 3 PLACES DECIMALS ± .005
 ANGLES ± .5°

SIZE	CAGE CODE	DWG. NO.	REV.
8	07M16	647.3900	C
SCALE NONE			SHEET 11 OF 12

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ORIGINAL DATE: 02-10-00
 DESIGNED BY: CHUCKER
 DRAWN BY: CHUCKER
 CHECKED: CHUCKER
 DRAWING APPROVAL:
 P. BRAVO
 CONTRACT NO.

APICAL INDUSTRIES
 2608 TEMPLE HEIGHTS DR.
 OCEANSIDE, CA. 92056-3512 (760) 724-5300

DEFLECTORS

UNITED STATES PATENT OFFICE
 DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 2 PLACE DECIMALS ±.01
 3 PLACE DECIMALS ±.005
 ANGLES ±.5°

SIZE: CAGE CODE	DWG. NO.	REV.
8 07M26	647.3900	C
SCALE: NONE		SHEET 12 OF 12



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO25511**

Purchase Order Date 8/25/2014

PO Print Date 9/2/2014

Page Number 2 of 5

Order From :

A.T.G. INDUSTRIES INC.
731 INDUSTRIELLE ROAD
ROCKLAND, ON K4K 1T2
CANADA

VC-ATG001

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 613-446-4544

Ship To Contact

Ship To Phone

Ship Via: VENDOR'S TRUCK

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

3	122215	D4970-3 WINDSHIELD	8/27/2014	5.00	\$6.67	\$33.33
			Yes			
			8/27/2014			

FINISH:HARD BLACK ANODIZE PER MIL-A-8625F TYPE III
CLASS 2

RUSH ORDER

Line Total: \$33.33

4	120635	647.4114 SHIM	8/27/2014	14.00	\$6.40	\$89.60
			Yes			
			9/5/2014			

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Line Total: \$89.60

5	123518	647.3913 BREAKAWAY TIP	8/27/2014	6.00	\$10.70	\$64.20
			Yes			
			8/28/2014			

FINISH: HARD BLACK ANODIZE AS PER IAW MIL-A-8625 TYPE III, CLASS 2 / PRIME AS PER IAW MIL-P-23377J TYPE 1 CLASS N

Note:

9/2/2014



A.T.G. Industries Inc.
731, rue Industrielle Rd.
PLATING DEPARTMENT
Rockland, On K4K 1T2
Canada
Ph: (613) 446-4544
Fax: (613) 446-4556

Pack List

Number: 63231

Date: 28-Aug-14

To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ship To

DART AEROSPACE LTD
1270 ABERDEEN ST.
HAWKESBURY, ON K6A 1K7
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

Terms		Ship Via	
Quantity	Description		
14 ea	Part: 647.4114 ✓ SHIM HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20140546	Rev:	Line:
6 ea	Part: 647.3913 ✓ BREAKAWAY HARD ANODIZE AS PER MIL-A-8625 TY II, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20140547	Rev:	Line:
5 ea	Part: 647.1512 ✓ BREAKAWAY HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20140548	Rev:	Line:
30 ea	Part: 646.3719 ✓ DOUBLE HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N PRIMER IS SUPPLY BY THE CUSTOMER Job: 20140549	Rev:	Line:
30 ea	Part: 646.3719 ✓ DOUBLE HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2 PRIME AS PER MIL-P-23377J TYPE I CLASS N	Rev:	Line: